(12) INTERNATIONAL AFT ATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau



I CONTRACTOR IN CONTRACTOR CONTRACTOR IN THE CON

(43) International Publication Date 8 January 2004 (08.01.2004).

(10) International Publication Number WO 2004/003539 A1

(51) International Patent Classification⁷: 33/53, 37/00, H01J 49/40, 49/10, 49/04 G01N 27/64,

(21) International Application Number:

PCT/JP2003/008197

(22) International Filing Date:

27 June 2003 (27.06.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2002-191535

28 June 2002 (28.06.2002)

(72) Inventor; and

(75) Inventor/Applicant (for US only): OKAMOTO, Tadashi [JP/JP]; c/o CANON KABUSHIKI KAISHA, 3-30-2, Shimomaruko, Ohta-ku, Tokyo 146-8501 (JP).

(74) Agents: OKABE, Masao et al.; No. 602, Fuji Bldg., 2-3, Marunouchi 3-chome, Chiyoda-ku, Tokyo 100-0005 (JP).

(81) Designated States (national): CN, KR, US.

(84) Designated States (regional): European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(71) Applicant (for all designated States except US): CANON KABUSHIKI KAISHA [JP/JP]; 3-30-2, Shimomaruko, Ohta-ku, Tokyo 146-8501 (JP).

(54) Title: METHOD OF ANALYZING SUBSTANCE ON SUBSTRATE BY MASS SPECTROMETRY

(57) Abstract: Provided is a method making it possible to measure the molecular weight useful for the specification of a substance bonded on a substrate by MALDI-TOF MS. When the substance is to be bonded on the substrate, MALDI-TOF MS analysis can be utilized by providing a partial structure to be disconnected by light in the bonded portion and selectively disconnecting the partial structure by light having a predetermined wavelength to bring the substance in an unfixed state.



International application No.

PCT/JP03/08197

A. CLASSIFICATION OF SUBJECT MATTER Int.Cl' G01N 27/64, G01N33/53, G01N37/00, H01J49/40, H01J49/10, H01J49/04				
According to International Patent Classification (IPC) or to both national classification and IPC				
	DS SEARCHED			
Minimum documentation searched (classification system followed by classification symbols) Int.Cl ⁷ G01N27/62-27/70, G01N33/00-33/, H01J49/00-49/48				
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Japanese Utility Model Gazette 1926-1996, Japanese Publication of Unexamined Utility Model Applications 1971-2003, Japanese Registered Utility Model Gazette 1994-2003, Japanese Gazette Containing the Utility Model 1996-2003				
	ta base consulted during the international search (name of Web of Science, CAS	data base and, where practicable, search terr	ns used)	
C. DOCUMENTS CONSIDERED TO BE RELEVANT				
Category*	Citation of document, with indication, where ap	propriate, of the relevant passages	Relevant to claim No.	
	WO 98/20020 A (SEQUENOM, INC.) 1998.05.14			
X	page 33, line 24 - page 4 page 52, line 4 - page 68		1-6,13-21,	
	page 103, line 1 - page 00		24-30,37,38	
	figures 1-7			
Y	page 33, line 24 - page 4	7-12,22,23		
	page 52, line 4 - page 68		31-36	
	page 103, line 1 - page 1	04, line 11		
	figures 1-7 & JP 2001-503760 A			
	& OF 2001-303700 A			
Y	G.Marriott, et al.: "Photom	odulation of the	7-11,22,	
	nucleating activity of pho	tocleavable	31-35	
	cross-linking actin dimer"			
	BIOCHEMISTRY INTERNATIONAL	•		
	vol.26, no.5, 1992 pages 943-951			
	the whole document			
	The wife and an entered			
Further documents are listed in the continuation of Box C. See patent family annex.				
 Special categories of cited documents: "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand to be of particular relevance 				
"E" earlier application or patent but published on or after the international "X" document of particular relevance; the claimed invention cannot be filling date considered novel or cannot be considered to involve an inventive				
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "Y" document of carticular relevance; the claimed invention cannot be				
"O" document referring to an oral disclosure, use, exhibition or other means considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art				
"P" document published prior to the international filing date but later than "&" document member of the same patent family the priority date claimed				
Date of the actual completion of the international search Date of mailing of the international search report				
24.07.03		12.08.03		
Name and mailing address of the ISA/JP Authorized officer 2W 2910				
	Japan Patent Office Masamitsu TAKABA			
3-4-3 Kas	umigaseki Chivoda-ku Tokyo 100-8015 Japan	Telephone No. +81-3-3581-1101 F	x 3290	



International application No. PCT/JP03/08197

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	"PC BIOTIN AND RELATED PHOTOCLEAVABLE MODIFIERS" Glen Report, vol.14, no.1, Feb. 2001, pages 8,9 * the whole document *	12,23,36
x	S.Hahner, et al.: "Matrix-assisted laser disorption/ionization mass spectrometry of DNA using photocleavable biotin" BIOMOLECULAR ENGINEERING, vol.16, 1999, pages 127-133 * the whole document *	1-6,13-15
A	WO 98/31830 A (BRAX GENOMICS LIMITED) 1998.07.23 * the whole document * & JP 2001-508307 A	1-38
A	WO 99/67424 A (UNIVERSITY OF VERMONT) 1999.12.29 page 3, line 10 - line 29 & US 6124099 A	7-11,22, 31-35
A	WO 98/20166 A (SEQUENOM, INC.) 1998.05.14 * the whole document * & JP 2002-507883 A	1-38